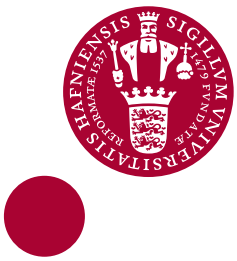

The importance of hunting and smallscale fishing in Greenland

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The importance of hunting and small-scale fishing in Greenland

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Dramatic changes in biodiversity and living conditions are expected in Arctic regions in the coming decades due to global climate change. Changes in thickness and cover of the sea ice, including later formation in the autumn/winter and earlier break-up in spring/summer have already been confirmed, both by research studies and through local observations. It is thus expected that the area covered by sea ice along Greenland's coasts will be reduced considerably already by the middle of the 21st century.

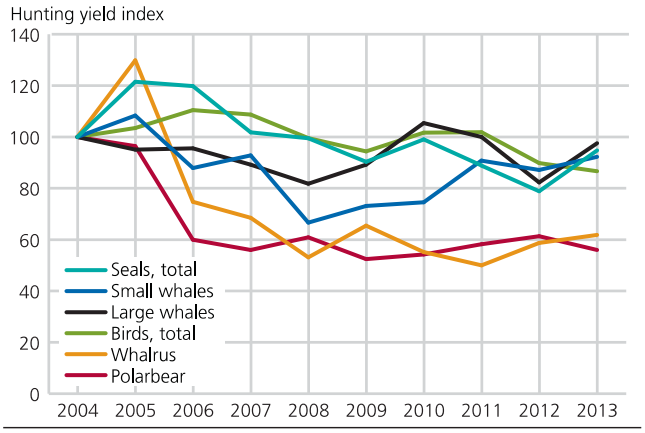
Changes in climate and ice cover are expected to affect populations of birds, mammals and fish and lead to changes in migration routes, distribution ranges, population sizes and possibly also extermination of particularly vulnerable species. To some extent, some of these effects can already be observed. Some species have furthermore historically been subjected to a hunting pressure that in certain cases and periods has contributed to decline of the hunted populations. These aspects, together with international agreements, have led to introduction of quotas on specific species and repeated tightening of hunting regulations.

Most people in smaller settlements along the coast of Greenland depend partly or entirely on hunting and small-scale fishing. The quotas for small-scale fishing have been reduced in favor of larger vessels. Only few studies have examined how climate change affects Arctic communities and evaluated their adaptation strategies, and the majority of the conducted studies are based on qualitative methods. Consequently, quantitative assessments of the importance of subsistence hunting and fishing as components in households' food supply and total income are scarce. Although it is well known that subsistence hunting and fishing is important to many households, this side of the economy is not visible in national income assessments. Furthermore, research indicates that a large proportion of Greenlandic hunting households can be considered poor, both in national and international contexts.

Reduced hunting and fishing yields, either as a consequence of climate change, regulation or both, may therefore severely affect the material wealth and general well-being of hunting households without being detected in national income statistics. Lack of documentation of such changes further implies that these aspects are often not included in political decision making.

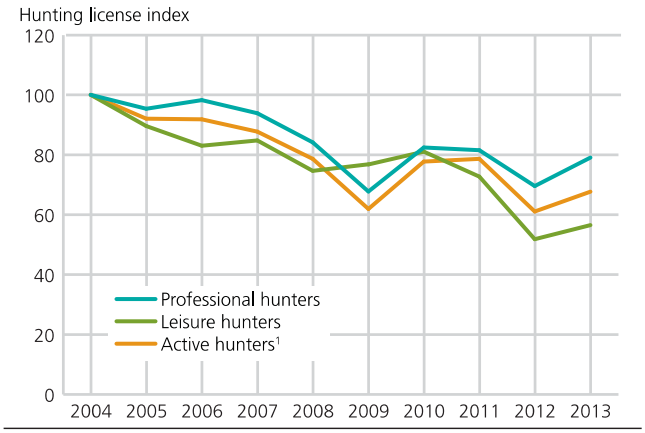
The role of hunting and small-scale fishing for livelihoods, living conditions and general well-being of hunters' and small-scale fishermen's households, as well as their contribution to the wider Greenlandic society and the national economy are examined in a research project anchored at the University of Greenland (Ilisimatusarfik) in Nuuk in partnership with the University of Copenhagen, University of Roskilde and Artek/Danish Technical University. The project involves a number of associated partners, such as the Ministry of Fisheries, Hunting and Agriculture, Ministry of Nature, Environment and Justice, Statistics Greenland, Greenland Institute of Natural Resources, the Association of Greenlandic Hunters' and Fishers' (KNAPK), and Royal Greenland A/S.

Figure 6.13. **Total yield of hunting in per cent of the yield in 2004 for categories of sea mammals and birds**



Source: Ministry of Fisheries, Hunting and Agriculture (based on data in Statistics Greenland's Statistical Yearbook 2015, Table 11).

Figure 6.14. **Hunting licenses in per cent of the licenses issued in 2004**



[1] Active hunters are professional or leisure hunters who reported catch during the year.

Source: Ministry of Fisheries, Hunting and Agriculture (based on data in Statistics Greenland's Statistical Yearbook 2015, Table 10).

Figures 6.13 and 6.14 present some of the first results of the project, indicating the significance of hunting for hunters in Greenland. During the 10 year period from 2004, where quotas were introduced for some species, total annual yields of sea mammals and birds declined slightly for seals, birds and small whales and by as much as 40 per cent for walrus and polar bear (Figure 6.13). However, the number of active licensed hunters also declined from 2004 to 2013 (Figure 6.14), which resulted in an increased yield per hunter of important species such as seals, small whales and birds.

Photo: Greenland. Colorbox

Therefore, while the overall contribution of these species to the Greenland economy appears to have decreased, the contribution to the individual hunter's household does not appear to have decreased, at least not on average. However, individual households' reliance on hunting as a share of total household income (subsistence and cash) and the distribution of hunting incomes across households are not known and may change dramatically in the future as a result of predicted climate changes and further tightening of hunting regulations aiming to protect vulnerable species.

This project therefore aims to determine to what extent cash and subsistence income derived from individual species contribute to Greenlandic hunting households' total annual income. Reliance on hunting and hunting yield composition are compared over time and between locations to examine to what extent different species substitute each other and how this has been influenced by climatic factors, hunting regulations and trade prices. The project aims to help designing future hunting regulations in a way that might better serve the long-term interests of society as well as hunting households. This includes evaluating to what extent alternative income generating opportunities such as tourism may potentially fill household economic gaps resulting from tightened hunting regulations and climate change.

Initially, the project is based on analysis of existing, detailed register data including yields from hunting and small-scale fishing collected by the Ministry of Fisheries, Hunting and Agriculture and the Greenland Fisheries License Control Authority. These data will be combined with data on income, social benefits received, registered trade in skins, meat and commercial fishing products collected by Statistics Greenland. Subsequent stages of the project will collect primary empirical data through household surveys to examine hunters' preferences for income-generating activities and the validity of own reported catch and registered income as a basis for scenario and sensitivity analysis.

Subsistence in the Arctic – results from SLiCA 2015 in Qeqertarsuatsiaat, Greenland[1]

Hunter T. Snyder, Dartmouth College, and Birger Poppel, Ilisimatusarfik, University of Greenland

The Survey of Living Conditions in the Arctic (SLiCA) is one of the most comprehensive comparative studies of the quality of Arctic life among Arctic indigenous peoples. As a circumpolar research project, it has taken place among Inuit, Saami and the indigenous peoples of Chukotka and the Kola Peninsula. More than 8 000 respondents in the northernmost parts of Russia,